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# SALMON AO PEAs H1&2 - Lunar and Planetary Science USPI and PMO

Dr. Carlos Liceaga  
Program Executive for Missions of Opportunity  
NASA Headquarters



# Background

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- Five fundamental science questions form the basis for NASA's approach to the exploration of the Solar System.
  - How did the Sun's family of planets and minor bodies originate?
  - How did the Solar System evolve to its current diverse state?
  - What are the characteristics of the Solar System that led to the origin of life?
  - How did life begin and evolve on Earth and has it evolved elsewhere in the Solar System?
  - What are the hazards and resources in the Solar System environment that will affect the extension of human presence in space?



# Science and Program Objectives

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- NASA solicits proposals that address the Planetary Science Research Program objectives listed in the *Science Plan for NASA's Science Mission Directorate 2007 – 2016* (hereafter referenced as the *2007 NASA Science Plan*).
- Proposed investigations that address the lunar science priorities listed in the *2007 NASA Science Plan* are highly encouraged.



# Technical Requirements and Constraints

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- In addition to the requirements given in ROSES for PEA H1 - Planetary USPI and in the SALMON AO for PEA H2 - Planetary PMO, all proposed investigations must also demonstrate
  - Their formal relationship with the sponsoring agency's mission (e.g., selected participant, invited participant, or proposed participant)
  - The status of the mission within the sponsoring agency (i.e., its phase), including the level of commitment that the sponsoring agency has made to complete development
  - A description of the type and the characteristics of the data from this investigation, as well as any ancillary science data, that will be archived in the Planetary Data System as part of this investigation, and a description of the arrangements and resources included in the proposal to ensure the timely delivery of the necessary data in the required format
  - A detailed explanation of how the U.S. planetary science community benefits from this participation



# PEA H1 - Lunar and Planetary Science USPI

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- A USPI may serve as a Co-Investigator (Co-I) for an instrument, experiment, or technology demonstration that is being built and flown by a sponsor agency other than NASA.
- The Co-I role can include, but is not limited to
  - Instrument design, modeling, and simulation of the instrument's operation and measurement performance
  - Calibration of the instrument, scientific analysis, and/or research of the data returned
  - Development of innovative data analysis techniques
- A USPI may also serve as a member of a non-NASA space mission science or engineering team and participate in science team activities such as mission planning, mission operations, data processing, data analysis, and data archiving.



# PEA H1 Requirements

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- No matter what the nature of the USPI role, an investigation proposed under this category must be for a science or technology investigation and include
  - Some meaningful data analysis component
  - Archiving of the complete data set
  - The publication of science results in the peer reviewed literature
- All aspects of the investigation, including publication, must be included in the proposed cost.
- A proposed investigation as a USPI on a non-NASA space mission may take any form that clearly and demonstrably
  - Enhances the scientific output of the mission
  - Benefits the U.S. scientific community
  - Enables the U.S. lunar or planetary science community access to a highly valued scientific data set



# PEA H1 Constraints

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- This PEA solicits new investigations only.
- Proposals whose intent or purpose is to extend or directly supplement existing investigations already funded for approved space flight missions or other Planetary Science Division research programs are not appropriate for this PEA.



## PEA H1 Constraints (cont.)

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- Investigators who are members of the science teams of ongoing missions and who propose to use data from those missions must clearly demonstrate that the proposed research is distinct from their existing efforts.
- Investigations requiring the provision of flight hardware are not solicited through this USPI solicitation.
- Investigations requiring the provision of flight hardware may be proposed to PEA H2.





# PEA H1 Investigation Duration

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- All investigations shall include adequate time for data analysis and archiving following the conclusion of the prime mission phase.
- Proposals should be for the entire duration of the proposed investigation.
- This may be no more than through the prime science mission, plus one year for additional data archiving for the baseline scientific investigation.
- The budget justification in the body of the proposal should cover this entire period.



# PEA H1 Award Duration

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- Awards will be for a maximum of five years.
- If the proposed investigation is for more than five years, then a continuation proposal may be submitted for a new award covering a period of up to five additional years.
- The progress and accomplishments of the initial five years of the investigation will be reviewed as part of the decision making process for the continuation award.
- The budget for only the first five years of the investigation should be entered into the on-line budget forms.



# PEA H1 Evaluation Factors

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- In addition to the factors given in the *NASA Guidebook for Proposers*, the evaluation criterion “intrinsic merit” specifically includes the following factors.
  - The benefits to the U.S. planetary science community from this investigation
  - The demonstrated scientific merit that this investigation’s archived data adds to the U.S. planetary science community



# PEA H2 - Lunar and Planetary Science PMO

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- Lunar or planetary science investigation involving participation in a non-NASA space mission by providing a critical component, such as one of the following
  - Complete science instrument
  - Technology demonstration
  - Hardware component
  - Microgravity research experiment
  - Expertise in critical areas of the mission



# PEA H2 Requirements

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- PMOs must propose to participate in a non-NASA space mission that is planned or that has been approved by its sponsoring organization.
- They may be sponsored by non-U.S. governments, by other U.S. agencies, or by private sector organizations.
- PMO investigations on a military satellite are allowed as long as the satellite is not planned for weapons testing.



# PEA H2 Constraints

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- No launch vehicle will be provided by NASA through this solicitation.
- In addition, NASA is prohibited by law from purchasing non-U.S. launch vehicles.
- NASA funds provided to an investigation may not be used to purchase a launch vehicle from a non-U.S. source.



# PEA H2 Scientific Evaluation Factors

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- Proposals will be evaluated per the evaluation criteria set forth in Section 7.2 of the SALMON AO.
- In addition to the factors for implementation merit given in Section 7.2.3 of the SALMON AO, the implementation merit of a proposal will also include
  - The demonstrated scientific merit that this investigation's archived data adds to the planetary science community